

SCOTT HIGHWAY BRIDGE
Spanning Black Creek
Blissfield Vicinity
Lenawee County
Michigan

HAER No. MI-108

HAER
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD

National Park Service
Great Lakes Systems Office
Department of the Interior
1709 Jackson Street
Omaha, NE 68102-2571

HISTORIC AMERICAN ENGINEERING RECORD

SCOTT HIGHWAY BRIDGE HAER No. MI-108
(Scott Highway Bridge, Spanning the Black Creek)

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Location: Scott Highway, Spanning the Black Creek
Section 4
T8S, R4E
Blissfield Vicinity
Lenawee County, MI

UTM: 17.2551000.4632915
Quad: Palmyra, MI, 1:24,000

Date of Construction: 1897 (estimated)

Engineer: Unknown
Architect: Unknown

Present Owner: Lenawee County Road Commission
2461 Treat Highway
Adrian, MI 49221

Present Use: Closed (1989). Formally, vehicular traffic.

Significance: The bridge is part of Lenawee County's local roadway system which primarily serves existing agricultural uses and residential traffic. The bridge is as an early example of a steel, through truss Pratt structure.

Project Information: An evaluation by qualified engineering personnel advised replacement of the bridge. To mitigate the adverse effect, the State Historic Preservation Officer stipulated documentation of design elements of the bridge. This documentation was undertaken to fulfill that stipulation.

Westshore Engineering & Surveying, Inc.
Consultants to the Lenawee County Road Commission
2534 Black Creek Road
Muskegon, MI 49444

Summary Description of Bridge and Setting

The bridge carries Scott Highway over Black Creek. The bridge is locally known as both the Scott Highway Bridge and Scott Road Bridge. The bridge is located approximately 4.0 miles west of the Village of Blissfield, MI, Section 4, Ogden Township, Lenawee County, MI (T8S, R4E). The bridge site is approximately 10.0 miles southeast of the City of Adrian, MI. Scott Highway serves as a north/south county arterial linking to Gorman Road, lying 1.5 miles north. Gorman Road is an east/west county arterial linking to Michigan State Highways M-52 and M-156, and to US-127.

The bridge was originally constructed and used as a public structure to permit the crossing of Black Creek by vehicles.

The Scott Highway Bridge is a steel, through truss Pratt bridge. The bridge has 1 span and a total length of 100 feet. The bridge width is 14 feet wide. The estimated construction year of the bridge is 1897. The approaches consist of compacted sand and gravel. The bridge has been closed since 1989 due to its deteriorated condition.

Land use within the general area of the bridge site is predominately agriculture, however, there is a slow emergence of non-farm, single-family, dwellings. Farm properties are oriented to grain crops and pasturing. The nearest structures are in excess of 250 feet distant. It has been determined by the State Historic Preservation Officer that removal of the bridge will not impact said structures or other known resources.

Based on a detailed inspection of the bridge by qualified personnel, the following deficiencies are noted:

- a) Abutments: Major cracks throughout with settlement and loss of backfill. There is significant scour damage.
- b) Metal: All metal components exhibit significant rusting and fatigue.
- c) Floor Beams: All beams are rusted with several totally deteriorated.
- d) Deck: Wooden deck is rotted. Holes exist in various locations due to rotting.
- e) Railing: Excessive rust and deterioration. Some portions are missing.
- f) Paint: Non-existent.
- g) Channel: Poor condition with lack of maintenance potential.
- h) Rating: Operating rating is non-existent. Bridge is closed. Prior to closure, rating at 2 tons (rating refers to per axle load limit capability).

- i) Inventory: Inventory rating is non-existent. Bridge is closed and will not support vehicular loads. (Rating refers to per axle load limit capability based on engineering assessment.)
- j) Load Capacity: Bridge will not support vehicular loads. There is no safe load capacity based on the condition of the bridge.
- k) Structure: Intolerable structural condition with continued closure recommended.
- j) Geometry: Intolerable condition with structure not meeting acceptable standards. Roadway width is 14.0 feet wide. Design standard for this location is 28.0 feet to safely accommodate two lanes of traffic.

Date of Construction and Alterations (Bridge and Site)

It is estimated the bridge was constructed in 1897. Since that period, no record of alterations has been maintained. Based on visual observation of the road bed, abutments, and approaches, it appears limited maintenance may have taken place to prevent total deterioration and provide for some level of use. Since closure of the bridge (November, 1989), no maintenance has occurred.

The region has historically been used for agriculture. That use continues.

Detail Pursuant To Those Involved With Bridge Design and Construction

The designer of the bridge is unknown. The bridge was erected by Wynkoop and McGormley, who served as contracting agents for the Massillon Bridge Company of Massillon, Ohio. The Massillon Bridge Company was responsible for the bridge fabrication work. The bridge contains no name plate, plaque, or other identification marker. No bridge plans are available.

Technology Used

The bridge is a steel, single-span, through truss Pratt bridge. This design is common for short-span bridges constructed in the 1870's and 1880's, but less common thereafter.

Use of Structure

Prior to closure in 1989, the Scott Highway Bridge served primarily agricultural and residential traffic. Although used up to time of closure, the bridge's geometrics and weight limits precluded use by many farm vehicles. The size and weight of modern tractors and associated field equipment were generally too heavy and/or wide for the bridge. Secondary bridge uses included postal vehicles, emergency vehicles, and limited commercial traffic.

Scott Highway functions as a local north/south county road with direct connection to Gorman Road, 1.5 miles north of the Scott Highway Bridge. Gorman Road is an east/west county arterial connecting to M-52, M-156, and US-127. This linkage offers efficient vehicular routing to the nearby communities of Blissfield, Adrian, Tecumseh.

Historical Significance

The bridge is an example of a late nineteenth century steel, single-span, through truss Pratt bridge. Based on information provided by the Michigan State Historic Preservation Officer, the bridge is typical for the period and generally common in the State of Michigan.

Background and Contextual Information

Historically, the system of local county roads in the State of Michigan was based on the use of (land survey) section lines for placement purposes. The results of this are evidenced throughout the state. One has only to examine local county roadway maps to observe that most public roads clearly follow section line boundaries. The lack of deviation from section lines thus established a majority of the state's water crossing locations. Modification to the use of section lines for road and bridge placements generally happened only through the occurrence of significant physical (natural) or cultural (man made) barriers demanding an alignment change. For instance, road builders faced with an extremely wide river crossing might seek a narrower passage.

The Scott Highway Bridge site is an example of a water crossing not following common section lines. Due to topographic and wetland limitations, a more suitable location in Section 4, approximately 1,320 feet west of the common border of Sections 3 and 4, was selected. The alignment of Scott Highway also deviated from the common section line border sufficient to accommodate the bridge crossing.

Significance of the Crossing

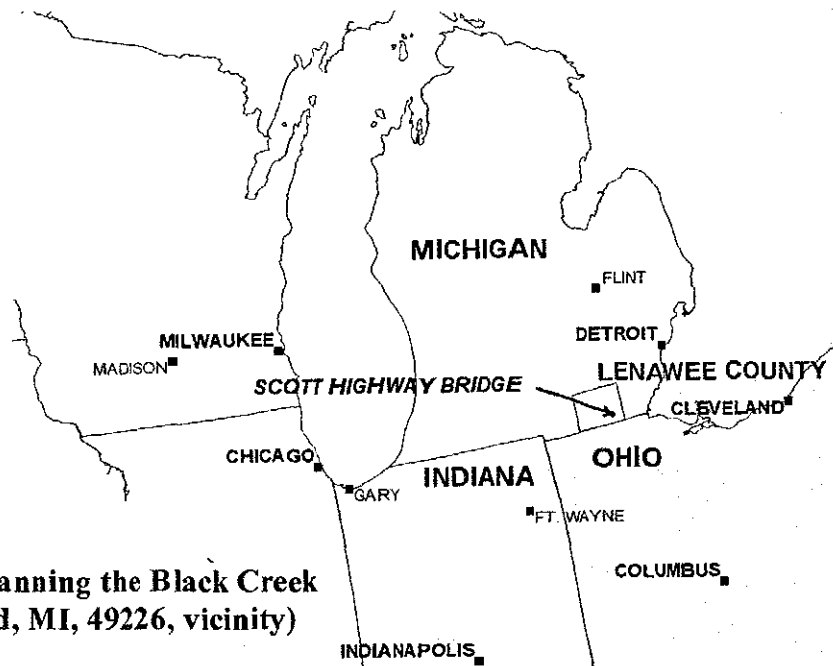
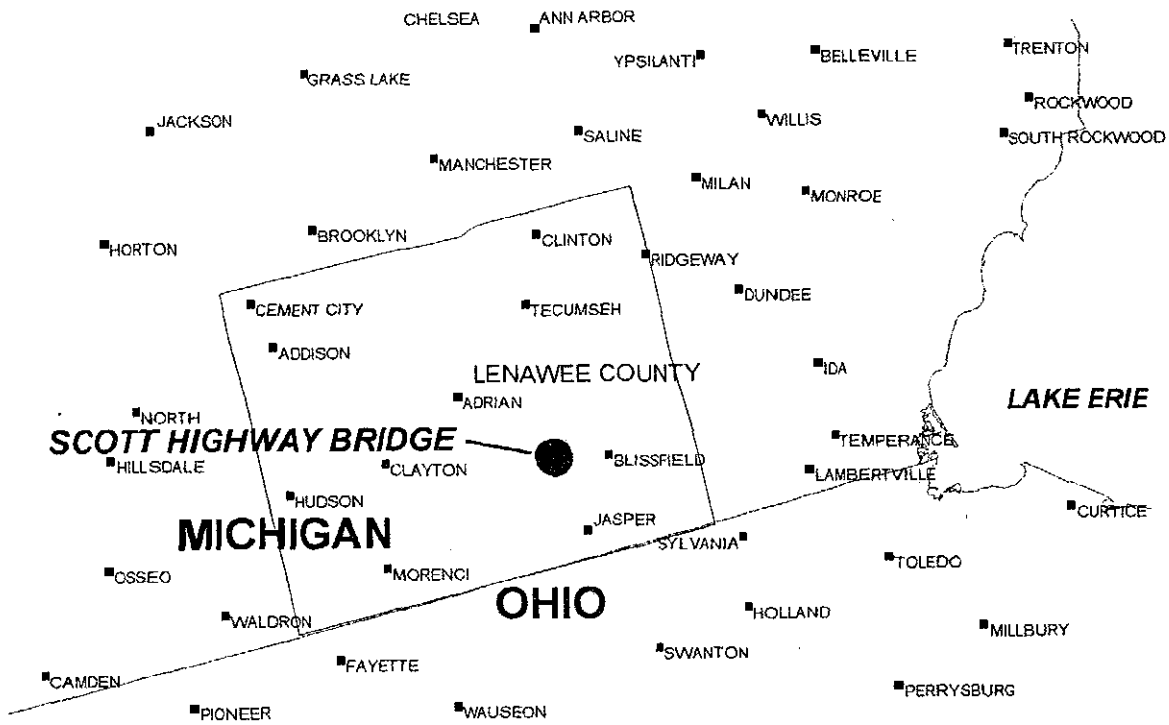
The crossing of Black Creek in this location is significant to local farmers and non-farm residents. Currently, detours of 4 or more miles are required pursuant to north/south movement. Annually, this results in significant loss of productive time, adds to vehicular and equipment wear, and promotes energy inefficiency.

In later years of use, the geometrics and weight limitation of the bridge prevented the safe movement of farm equipment. In some instances, due to size of equipment, bridge crossings were not possible. Large tractors and other machinery such as combines, plows, mowers, and the like, were too heavy and/or too wide to be supported by the bridge. Such equipment generally did not exist at time of bridge construction.

At closure, daily traffic counts were estimated at 100 vehicles per day. If the bridge were to be reopened and improved to current State/Federal design standards, it is estimated counts would increase to 300 vehicles per day with approximately 10 percent truck or other commercial-type traffic.

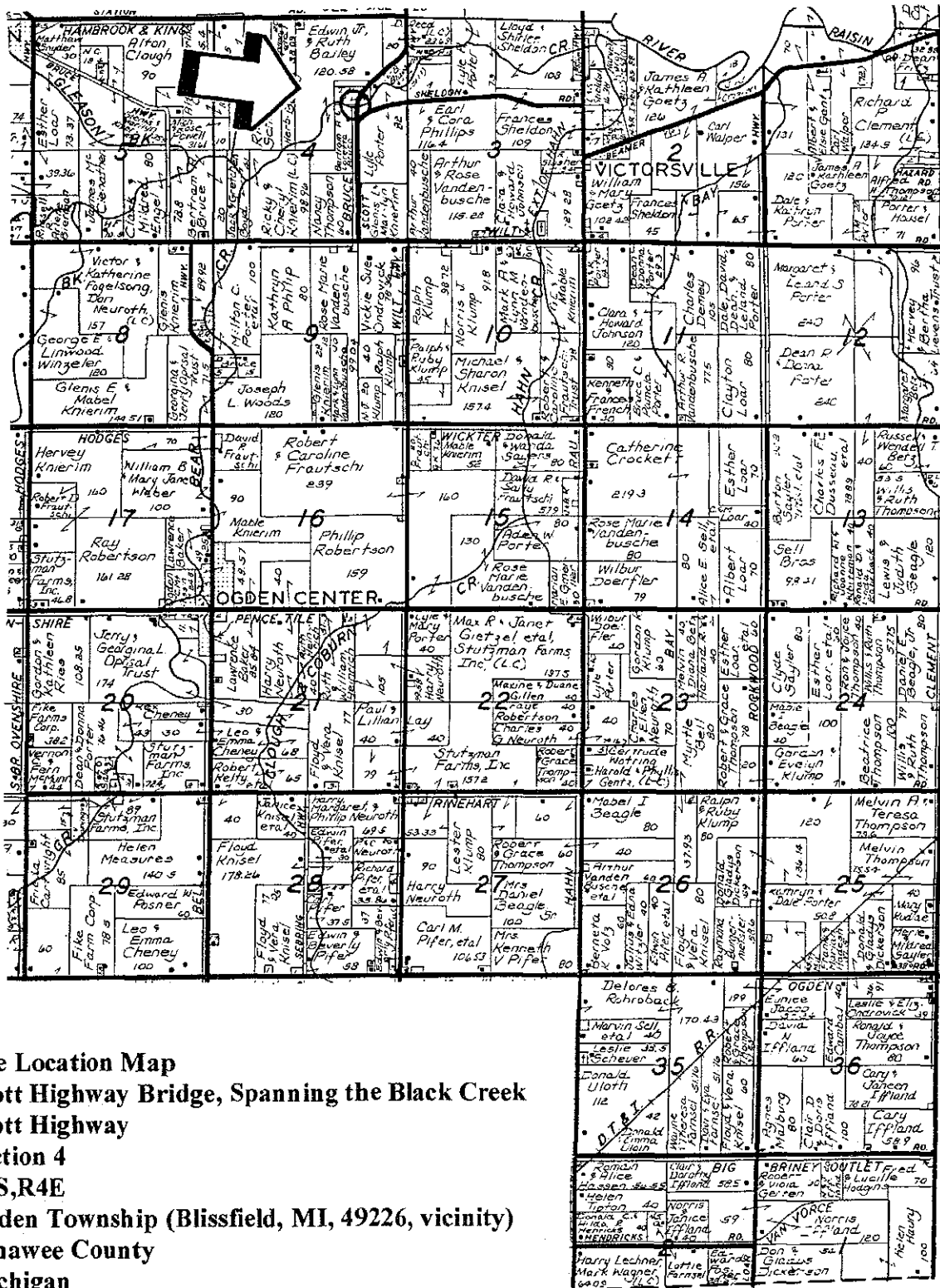
Based on a continuation of land use which is predominately agriculture, counts over the next 20 years are estimated to increase to 500 vehicles per day. Should the conversion of farmland to non-farm, residential, use accelerate over the next 20 years, the amount of potential traffic is likely to be higher than estimated. Present land development trends indicate that farming is likely to predominate over the 20 year period.

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Regional Location Map
Scott Highway Bridge, Spanning the Black Creek
Ogden Township (Blissfield, MI, 49226, vicinity)
Lenawee County
Michigan

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Site Location Map
Scott Highway Bridge, Spanning the Black Creek
Scott Highway
Section 4
T8S,R4E
Ogden Township (Blissfield, MI, 49226, vicinity)
Lenawee County
Michigan

SOURCES OF INFORMATION/BIBLIOGRAPHY

- A. Engineering drawings: No drawings or design plans of the bridge are known to exist.
- B. Historic views: No historic views of the bridge are known to exist.
- C. Interviews: Orrin Gregg, Manager
Lenawee County Road Commission
Adrian, MI
Period of 1994 through 1996

Dr. Charles Lindquist, Director
Lenawee County Historical Society
Adrian, MI
Period of 1994 through 1996
- D. Bibliography:

Environmental Assessment and Programmatic Section 4(f) Evaluation of the Scott Highway Bridge over Black Creek. Lenawee County Road Commission in cooperation with the Michigan Department of Transportation. Adrian, MI, 1995. (Document on file at the offices of the Lenawee County Road Commission, 2461 Treat Highway, Adrian, MI, 49221, and the Michigan Department of Transportation, Local Services Division, P.O. Box 30050, Lansing, MI 48909.)
- E. Likely sources not yet investigated: No additional sources of information are known.
- F. Supplemental material: No supplemental material has been attached.